



BROAD AGENCY ANNOUNCEMENT (BAA)

INTRODUCTION:

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2). A formal Request for Proposals (RFP), solicitation, and/or additional information regarding this announcement will not be issued.

The Office of Naval Research (ONR) will not issue paper copies of this announcement. The ONR reserves the right to select and fund for award; all, some, or none of the proposals in response to this announcement. ONR provides no funding for direct reimbursement of proposal development costs. Technical and cost proposals (or any other material) submitted in response to this BAA will not be returned. It is the policy of ONR to treat all proposals as sensitive competitive information and to disclose their contents only for the purposes of evaluation.

It is anticipated that awards will take the form of Cost Plus Fixed Fee (CPFF) contracts. Therefore, all proposals submitted as a result of this announcement will fall under the purview of the Federal Acquisition Regulations (FAR).

I. GENERAL INFORMATION

1. Agency Name -

Office of Naval Research
One Liberty Center
875 North Randolph Street, Suite 1425
Arlington, VA 22203-1995

2. Research Opportunity Title -

Navigation in a GPS-denied environment

3. Program Name -

GPS Alternative

4. Research Opportunity Number -

ONR BAA 06-007

5. Response Dates -

Full Proposals are due no later than 2:00 p.m. est. on 30 March 2006.

6. Research Opportunity Description -

6.1 Background

The Office of Naval Research (ONR) is attempting to improve the way that ground forces track, locate and report their physical position to both their immediate neighbors and to higher headquarters. ONR would like to pursue solutions to the ground force position location information tracking issue without sole reliance on the Global Positioning System (GPS).

In the current battlefield environment, our ground forces are often deployed in environments where GPS is either partially or completely unavailable. An example of partial denial includes operations in urban terrain where buildings limit satellite visibility. Operations either underground or inside of buildings prevent all satellite visibility, as well as affecting general Radio Frequency (RF) propagation. Therefore, we seek implementations of methods of location determination that will operate in these environments.

Nominally, each Marine will carry a lightweight device capable of reporting its own location, as well as reporting the location of the other members of its clique (where a clique is defined as a group of devices/Marines that are operating together). These devices shall cooperate with each other in order to determine their relative positions. Often, knowledge of the relative positions of the other members of the clique is more important than their absolute position. An example of this would be the knowledge that a fire team is in position on the other side of a building prior to a forced entry.

There shall be a method of determining one's own position and of associating devices into a clique. In order to permit higher headquarters to have knowledge of personnel location, at least one device shall have a standard military radio interface in order to present position/location information. Information presentation/display shall be minimal, preferably graphical and shall note when position location is degraded. A complete windowing environment is discouraged due to its unnecessary complexity for a fixed function device.

6.2 Program Plan

The Office of Naval Research Expeditionary Maneuver Warfare and Combating Terrorism Department (ONR-30) anticipates a two phase program.

The first phase of the program is anticipated to be seven months in duration and will consist of the design and description of the relevant technologies required to achieve the desired capabilities. Phase 1 (Base period) is estimated to be valued at \$200-\$300k.

The second phase of the program is also anticipated to be seven months in duration and will consist of several tasks corresponding to major program milestones. Task 1 is to complete the detailed design of the prototype system. Task 2 is to construct and demonstrate, in a laboratory scenario, the prototype system. Task 3 is to demonstrate the prototype in an operationally relevant scenario, i.e., outdoors with representative deployed forces. Phase 2 (Option I) is estimated to be valued at \$600k.

ONR intends to award three initial contracts so that varying approaches can be explored in order to meet the desired capabilities and goals of the prototype system. It is likely that only two Phase 2 Options will be funded. See Section II. Award Information.

Desired Capabilities

The Office of Naval Research has identified desired capabilities of the prototype system.

- 1) The system should not burden the deployed forces in either volume or mass.
- 2) The system should "just work" requiring minimal-to-no training for operation.
- 3) The system should be prepared to operate in a GPS-limited or GPS-denied environment.
- 4) The system should operate in open spaces as well as underground or cave-like settings.
- 5) The system should provide for the fusion of multiple references in order to provide location information.
- 6) The system should provide for auxiliary data sources/beacons for location information.
- 7) The system should provide for auxiliary data relays when in an underground or cave-like setting.
- 8) The system should provide for information security during data transfer consistent with the NSA Suite B (http://www.nsa.gov/ia/industry/crypto_suite_b.cfm).
- 9) The system should acknowledge when it is operating in a degraded information mode.
- 10) The system should provide for a limited/text-based data transfer from tracked/remote nodes.
- 11) The system shall provide for operation of 100m into underground or cave-like environments (use of up to three relays is permissible).
- 12) The system must provide a standard military radio interface (mechanical, electrical, data).
- 13) If relays are used as part of the system solution, said relays should be disposable and spoofing and tamper resistant.

Goals

The Office of Naval Research has identified the following goals of the system:

- 1) Each unit shall operate for eight (or more) hours upon recharge from a single BA5590 battery (170 WH capacity).
- 2) Position accuracy in a GPS-denied environment shall be 25m SEP (Spherical Error Probability) or better after eight hours of operation.
- 3) Projected production cost per unit in quantity of 1000 shall be \$2k or less.
- 4) Unit mass shall be 1kg or less, *not* including battery.
- 5) Volume of each unit shall be 400 cm³ or less.
- 6) A minimum of five units are to be produced and delivered in Phase 2.

7. Points of Contact:

Questions of a technical nature shall be directed to the cognizant Technical Point of Contact, as specified below:

Science and Technology Point of Contact:

Mr. John Moniz
Program Officer
Office of Naval Research
One Liberty Center
875 North Randolph Street, Suite 1425
Arlington, VA 22203-1995
Telephone Number: (703) 696-4924
Facsimile Number: (703) 696-2611
E-mail Address: monizj@onr.navy.mil

Questions of a business nature shall be directed to the cognizant Contract Specialist, as specified below:

Business Point of Contact:

Mrs. Wendy Fletcher, Senior Contract Specialist
Code ONR 0253
Office of Naval Research
One Liberty Center
875 North Randolph Street, Suite 1425
Arlington, VA 22203-1995
Telephone Number: (703) 588-2425
Facsimile Number: (703) 696-0066
E-mail Address: Wendy_Fletcher@onr.navy.mil

8. Instrument Type -

It is anticipated that all awards resulting from this announcement will be contracts.

9. Catalog of Federal Domestic Assistance (CFDA) Numbers -

Not Applicable

10. Catalog of Federal Domestic Assistance (CFDA) Titles -

Not Applicable

11. Additional Information -

Not Applicable

II. AWARD INFORMATION

Anticipated Award Information is as follows:

Total Amount of Funding Available for the Program : Phase 1 (Base): Up to \$600K.
Phase 2 (Option I): Up to \$1,200K

Total Amount of Funding Available for each Award: Phase 1 (Base): \$200-300K
Phase 2 (Option I): Up to \$600K

Anticipated Number of Awards: Phase 1 (Base): Up to 3 contract awards
Phase 2 (Option I): Up to 2 options exercised

Anticipated Award Types: Awards will be in the form of CPFF contracts

Anticipated Period of Performance for Awards: Phase 1 (Base): 7 months
Phase 2 (Option I): 7 months

III. ELIGIBILITY INFORMATION

Only U.S.-owned or U.S.-based firms and U.S. colleges and universities will be considered for award under this solicitation.

Independent organizations and teams are encouraged to submit proposals in any or all areas. However, offerors must be willing to cooperate and exchange software, data and other information in an integrated program with other contractors, as well as with technical assistance contractors selected by ONR.

IV. APPLICATION AND SUBMISSION INFORMATION

1. Application and Submission Process

Proposals - The due date for receipt of Full Proposals is 2 p.m. (Local Eastern Time) on 30 March 2006. It is anticipated that final selections will be made by 30 April 2006. As soon as the final proposal evaluation process is completed, the offeror will be notified via e-mail of its selection or non-selection for an award.

2. Content and Format of Full Proposals

The Proposals submitted under this BAA are expected to be unclassified. Classified proposals are not permitted and will not be accepted or considered for award. The Proposal submissions will be protected from unauthorized disclosure in accordance with FAR 15.207, applicable law, and DoD/DoN regulations. Offerors are expected to appropriately mark each page of their submission that contains proprietary information.

Proposal Format – Volume 1 - Technical and Volume 2 - Cost Proposal

Proposals shall consist of a Technical Proposal and a Cost Proposal. Volume 1, the Technical Proposal, shall contain three separate sections: Section 1 for Technical Approach, Section 2 for Qualifications, Past Performance and Experience and Section 3 for Management. The details of each section are described below. Volume 2 shall be the Cost Proposal.

- Paper Size – 8.5 x 11 inch paper (fold outs shall be counted as two pages)
- Font Size - no less than 10 point font
- Margins – 1” inch
- Spacing – Single or double-spaced
- Copies – one (1) original, four (4) copies and four (4) electronic copies on CD-ROM disk for each volume (in Microsoft Office 2000 compatible or .PDF format). The Technical and Cost proposals must be on separate CD-ROMs.
- Number of Pages – Volume I is limited to no more than 50 pages. Volume II has no page limit. Limitations within sections of the Technical Proposal are indicated in the individual descriptions below. The cover page and table of contents are excluded from the page limitations. Full proposals exceeding the page limit may not be evaluated.

The Cost proposal shall be separate and shall not be included with the Technical proposal. The Cost proposal CD-ROM shall be clearly labeled and separate from the Technical proposal CD-ROM. Offerors shall ensure that the CD-ROMs contain no viruses. If a submitted CD-ROM is unreadable or has a detected virus, the Government will not attempt to remove the virus or read the CD-ROM, but shall notify the offeror. The offeror shall be responsible to replace the CD-ROM within 5 days of notification. A second unreadable CD-ROM, or a replacement CD-ROM containing a detected virus, or a second proposal submitted after the deadline, will result in the proposal not being reviewed.

Proposal Content

Volume 1: Technical Proposal

The Technical Proposal shall contain the following:

Cover Page: This should include the words “Technical Proposal” and the following:

- (1) BAA Number;
- (2) Title of Proposal;
- (3) Identity of Prime Respondent and complete list of subcontractors, if applicable;
- (4) Technical Contact (name, address, phone, fax and e-mail);
- (5) Administrative/Business Contact (name, address, phone, fax and e-mail);
- (6) Duration of effort (separately identify the basic effort and the option); and
- (7) The cover page must be signed and dated

Table of Contents: Section, Title and page numbers are required.

A. Technical Approach

The proposal shall include the technical approach for performing the tasks described in paragraph I.6.2 of this BAA solicitation. The proposal shall also describe how the approach will satisfy the overall research objectives.

B. Qualifications, Past Performance and Experience

This section shall include the following:

- For all key members of the proposed Team, including but not limited to the Project Manager(s) and Principal Technical Investigator(s), provide names, title, and a paragraph describing area of expertise/relevant experience, qualifications, and capabilities along with roles and responsibilities for the proposed project. If subcontracting significant elements of the proposed work, identify companies by name, the companies area(s) of responsibility with respect to this project, the names and titles of key individuals, along with their area(s) of expertise (if different than title) and the individuals’ roles and responsibilities for this proposed effort.
- A description of offeror past performance on similar technical efforts, indicating contract values, contacts, and contact phone numbers. Past performance information should also include cost/price performance information including those internal controls that ensured the offeror did not exceed the cost/price. If costs were exceeded or prices were adjusted, provide the reasons and state the systemic improvement actions taken and current controls now in-place to prevent future recurrences.

C. Management

Describe the planned management and administrative organization for the effort. The management proposal shall include the following:

- An organization chart with solid lines delineating direct reports and dashed lines delineating inter-team coordination, with key personnel identified by title/area of expertise. If sub-contracting significant elements of the proposed work, show the subcontracting reporting relationships and area of expertise.

- Proposed planning, scheduling and available resources (both personnel and facilities) for the effort. Describe what management practices and techniques will be employed to ensure that responsive, proactive management oversight is maintained; especially if geographically dispersed operations are proposed.

- Describe the processes used to identify and mitigate risks throughout the project.

Statement of Work: A Statement of Work (SOW) clearly detailing the scope and objectives of the effort and the technical approach. It is anticipated that the proposed SOW will be incorporated as an attachment to the resultant award instrument. To this end, such proposals must include a severable self-standing SOW without any proprietary restrictions, which can be attached to the contract or agreement award. Include a detailed listing of the technical tasks/subtasks organized by year.

Project Schedule and Milestones: A summary of the schedule of events and milestones.

Assertion of Data Rights: Include here a summary of any proprietary rights to pre-existing results, prototypes, or systems supporting and/or necessary for the use of the research, results, and/or prototype. Any data rights asserted in other parts of the proposal that would impact the rights in this section must be cross-referenced. If there are proprietary rights, the Offeror must explain how these affect its ability to deliver research data, subsystems and toolkits for integration. Additionally, Offerors must explain how the program goals are achievable in light of these proprietary limitations. If there are no claims of proprietary rights in pre-existing data, this section shall consist of a statement to that effect.

Deliverables: A detailed description of the results and products to be delivered (including those identified under Section VI – Award Administration Information, paragraph 2, entitled “Program Deliverables and Reporting”).

COST PROPOSAL

The Cost Proposal shall consist of a cover page and two parts. Part 1 will provide a detailed cost breakdown of all costs, by cost category, by Government fiscal year and Part 2 will provide a cost breakdown by task/sub-task, corresponding to the task numbers in the proposed Statement of Work. The Option must be separately priced.

Cover Page: The use of SF 1411 is optional. The words “Cost Proposal” should appear on the cover page in addition to the following information:

- BAA Number;
- Title of Proposal;
- Identity of Prime Respondent and list of subcontractors, if applicable;
- Technical Contact (name, address, phone, fax and e-mail);
- Administrative/Business Contact (name, address, phone, fax and e-mail);
- Duration of effort (separately price the basic effort and the option);
- Names, phone numbers and e-mail addresses of DCMA and DCAA Points of Contacts; and
- Whether the proposal includes DCAA approved Forward Pricing Rate Agreement (FPRA) direct and indirect rates.

Part 1: Detailed breakdown of all costs, by cost category, by Government fiscal year:

- Direct Labor – Individual labor category or person with associated labor hours and unburdened direct labor rates;
- Indirect Costs – Fringe Benefits, Overhead, G&A, COM, etc. (must show base amount and rate);
- Proposed contractor-acquired equipment, such as computer hardware for proposed research projects, should be specifically itemized with costs or estimated costs. An explanation of any estimating factors, including their derivation and application, shall be provided. Where possible, indicate purchasing method (competition, price comparison, market review, etc.);
- Travel – Numbers of trips, destinations, duration, etc;
- Subcontracts – A cost proposal as detailed as the Offeror’s cost proposal will be required to be submitted by the subcontractor. The subcontractor’s cost proposal can be provided in a sealed envelope with the Offeror’s cost proposal or will be requested from the subcontractor at a later date;
- Consultant – Provide consultant agreement or other document which verifies the proposed loaded daily/hourly rate;
- Materials – Specifically itemized by cost. An explanation of any estimating factors including their derivation and application, shall be provided. Where possible, indicate purchasing method, (competition, engineering estimate, market survey, etc.); and
- Fee, including fee percentage

Part 2 : Cost breakdown by task/sub-task using the same task numbers in the Statement of Work.

3. Significant Dates and Times

ANTICIPATED SCHEDULE		
Event	Date	Eastern Time
Technical and Cost Proposals Due	03/30/2006	2:00 p.m.
Notification of Selection for Award	*04/30/2006	2:00 p.m.
Contract Awards	*08/01/2006	2:00 p.m.
*Estimated date of notification		

4. Submission of Late Proposals

Any proposal, modification or revision that is received at the designated Government office after the exact time specified for receipt of proposals is “late” and will not be considered unless it is received before award is made, the Contracting Officer determines that accepting the late proposal would not unduly delay the acquisition **AND**:

(a) If it was transmitted through an electronic commerce method authorized by the announcement, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals; or

(b) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of proposals and was under the Government’s control prior to the time set for receipt of proposals; or

(c) It was the only proposal received.

However, a late modification of an otherwise timely and successful proposal, that makes its terms more favorable to the Government, will be considered any time it is received and may be accepted.

Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the Government office designated for receipt of proposals by the exact time specified in the announcement, urgent Government requirements preclude amendment of the announcement closing date, the time specified for receipt of proposals will be deemed to be extended to the same time of day specified in the announcement on the first work day on which normal Government processes resume.

The Contracting Officer must promptly notify any offeror if its proposal, modifications or revision was received late, and must inform the offeror whether its proposal will be considered.

5. Address for the Submission of Proposals

Office of Naval Research
Attn: Wendy Fletcher, ONR 0253
One Liberty Center
875 North Randolph Street
Arlington, VA 22203-1995
Telephone Number: (703) 588-2425

NOTE: PROPOSALS SENT BY FAX OR E-MAIL WILL NOT BE CONSIDERED.

V. EVALUATION INFORMATION

1. Evaluation Criteria

Evaluation Criteria:

The following evaluation criteria applies. Proposals will be selected through a technical/scientific/business decision process with technical and scientific considerations being most important. Criteria A-D are listed in descending order of priority. Any subcriteria listed under a particular criterion are of equal importance to each other.

- A. Overall scientific and technical merits of the proposal
 - 1. The degree of innovation and soundness of the technical approach for the system.
 - 2. The Offeror's awareness of the state-of-the-art and understanding of the scope of the problem and the technical effort needed to address it.
 - 3. Potential relevance and contributions of the effort to research objectives.
- B. Offeror's capabilities, related experience, and past performance, including the qualifications, capabilities and experience of the proposed personnel.
 - 1. The quality of technical personnel proposed;
 - 2. The Offeror's experience in relevant efforts with similar resources
- C. Management
 - 1. The ability to manage the proposed effort (planning, scheduling, resources, management practices and techniques)
 - 2. Processes to identify and mitigate risks
- D. The realism and reasonableness of the proposed cost

For proposed awards to be made as contracts to large businesses, the socio-economic merits of each proposal will be evaluated based on the extent of the Offeror's commitment in providing meaningful subcontracting opportunities for small businesses, small disadvantaged businesses, woman-owned small businesses, HUBZone small businesses, veteran-owned small businesses, service disabled veteran-owned small businesses, historically black colleges and universities, and minority institutions.

2. Evaluation Panel

Proposal evaluations will be performed by a team of Government technical experts. The Government may use selected support contractor personnel as technical advisors to the Government evaluators. Contractor personnel may also provide administrative assistance in the handling of proposals. All contractor personnel will be bound by appropriate non-disclosure agreements to protect proprietary and source-selection sensitive information.

VI. AWARD ADMINISTRATION INFORMATION

1. Administrative Requirements

- The North American Industry Classification System (NAICS) code – The North American Industry Classification System (NAICS) code for this announcement is 54710 with a small business size standard of 500.

- CCR – Successful offerors not already registered in the Central Contractor Registry (CCR) will be required to register in CCR prior to award of any contract. Information on CCR registration is available at <http://www.onr.navy.mil/02/ccr.htm>

- Certifications – Proposals should be accompanied by a completed certification package which can be accessed on the ONR Home Page at Contracts & Grants. For contract proposals, the certification package is entitled, “Representations and Certifications for Contracts.”

- Online Representations and Certifications Application (ORCA) – In addition to the submission of ONR specific Representations and Certifications, successful offerors not already registered in ORCA will be required to register prior to award of any contract. Information on ORCA registration is available at <http://orca.bpn.gov>.

- Subcontracting Plans – Successful contract proposals that exceed \$500,000, submitted by all but small business concerns, will be required to submit a Small Business Subcontracting Plan in accordance with FAR 52.219-9, prior to award.

- Any Government technical information relevant to this effort will be provided only to those contractors who are registered and certified with the Defense Logistics Service Center (DLSC). Contact the Defense Logistics Service Center, 74 Washington Avenue N., Battle Creek Michigan 49917-3084 (1-800-352-3572) for further information

regarding the certification process. Contractors must submit a copy of their approved DD Form 2345, Military Critical Technical Data Agreement, with their proposal.

- This acquisition potentially involves data that is subject to export control laws and regulations. The following clause will be incorporated into any resultant contract.
NAVAIR 5252.227-9507 NOTICE REGARDING THE DISSEMINATION OF EXPORT-CONTROLLED TECHNICAL DATA (JAN 1992)

(a) Export of information contained herein, which includes release to foreign nationals within the United States, without first obtaining approval or license from the Department of State for items controlled by the International Traffic in Arms Regulations (ITARs), or the Department of Commerce for items controlled by the Export Administration Regulations (EAR), may constitute a violation of law.

(b) For violation of export laws, the contractor, its employees, officials or agents are subject to:

- (1) Imprisonment and/or imposition of criminal fines; and
- (2) Suspension or debarment from future Government contracting actions.

(c) The Government shall not be liable for any use or misuse of the information, technical data or specifications in this contract. It shall not be liable for any patent infringement or contributory patent infringement. The Government neither warrants the adequacy nor the completeness of the information, technical data or specifications in this contract.

(d) The contractor shall include the provisions of paragraphs (a) through (c) above in any subcontracts awarded under this contract.

- Offerors should state that their proposals will be valid for 180 days from submission.

2. Program Deliverables and Reporting

Phase 1:

At the discretion of the Government, a kickoff meeting and regular technical reviews may be scheduled to assess the direction and progress of the project.

System Requirements Document, to include as a minimum: notional concept of operations; capabilities sought; design assumptions; capabilities delivered; and requirements formulation and tracking methodologies.

Monthly Technical and Financial Progress Reports, to include progress, plans and issues.

Final Technical Report documenting the results of the effort for the design and description of relevant technologies required to achieve the desired system capabilities.

Technical reports, presentations, vendor materials, analysis results, and any other material referenced or used in the preparation of the final report.

Phase 2:

At the discretion of the Government, a kickoff meeting and regular technical reviews may be scheduled to assess the direction and progress of the project.

System Design Document, to include as a minimum: description of the system; design assumptions; design methodologies; scientific/engineering/capability basis for design decisions; engineering trade-offs in design; expected capabilities; requirement satisfaction metrics; and verification test description.

Monthly Technical and Financial Progress Reports, to include progress, plans and issues.

Final Technical Report documenting the results of the tests, exercises and demonstrations.

Technical reports, presentations, vendor materials, analysis results, and any other material referenced or used in the preparation of the final report.

One Prototype System (at least 5 individual units)

VII. OTHER INFORMATION

1. Government Property, Government Furnished Equipment (GFE) and Facilities

Each offeror must provide a very specific description of any equipment/hardware that it needs to acquire to perform the work. This description should indicate whether or not each particular piece of equipment/hardware will be included as part of a deliverable item under the resulting award. Also, this description should identify the component, nomenclature, and configuration of the equipment/hardware that it proposes to purchase for this effort. It is the Government's desire to have the contractors purchase the equipment/hardware for deliverable items under their contract. The purchase on a direct reimbursement basis of special test equipment or other equipment that is not included in a deliverable item will be evaluated for allowability on a case-by-case basis.

2. Security Classification

In order to facilitate intra-program collaboration and technology transfer, the Government will attempt to enable technology developers to work at the unclassified level to the maximum extent possible.

If developers use unclassified data in their deliveries and demonstrations regarding a potential classified project, they should use methods and conventions consistent with

those used in classified environments. Such conventions will permit the various subsystems and the final system to be more adaptable in accommodating classified data in the transition system.

3. Department of Defense High Performance Computing Program

The DoD High Performance Computing Program (HPCMP) furnishes the DoD S & T and DT & E communities with use-access to very powerful high performance computing systems. Awardees of ONR contracts, grants, and assistance instruments may be eligible to use HPCMP assets in support of their funded activities if ONR Program Officer approval is obtained and if security/screening requirements are favorably completed. Additional information and an application may be found at <http://www.hpcmo.hpc.mil/>.